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A MEMOIR ON THE YELLOW FEVER OF THE WEST INDIES,

*As it occurred in the year 1838, at St. Pierre,
island of Martinique.* By E. RUFZ, D. M. P.,
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Manuscript.—[Continued.]

VARIETIES OF THE DISEASE.

UNDER this title I have arranged some cases, which, either in the duration and progress of the disease, or in certain symptoms, or in some peculiarity in their mode of termination, differed from the majority,—but which, nevertheless, cannot be considered otherwise than as varieties of the epidemic. Such is the following one.

1st. Mademoiselle Eliza, a milliner of Coblenz, twenty-six years of age, of a strong constitution, and very sanguine temperament, came to the colony three months before. She always led a very sober life; but, suffering from heat, she usually sought a current of air, and even placed herself at her window during the night. In the beginning of February she contracted a pulmonary catarrh, cough, difficulty of breathing, uneasiness and weight about the head, and loss of appetite.

On the 5th of February I bled her. The symptoms, however, instead of diminishing, increased; the cough became more frequent; the head was constantly oppressed; the appetite disappeared; the tongue became whitish, with a yellowish coating over nearly the whole surface, and red at the tip.

On the 19th she took a lemonade, with two ounces of cassia. This did not produce any evacuation. The cephalalgia became intolerable. Her face was very red, and there was considerable uneasiness, with a contusive pain in the limbs; slight delirium; pulse one hundred, and full; skin warm.

Sixteen ounces of blood were taken from her in the evening, after which she felt better; the cephalalgia was much less, and she was more calm at night; the cough, which had persisted until this time, diminished; she had three stools; pulse one hundred and four, and regular; skin hot, and slightly moist.

Emollient drinks, injections, pediluvia, and embrocations of lemon juice, were made use of.

Slight epistaxis occurred in the course of the day.

On the 21st the symptoms were nearly the same, and of the same intensity. There was no suppression of urine; stools were procured by enemata. There was a recurrence of the

epistaxis; and she complained of some twitchings, and soreness of the tendons, which I attributed to the embrocations. I, therefore, discontinued them.

22d.—Epistaxis; patient in the same condition; pulse still one hundred and four.

23d.—Had passed a restless night; there was stoppage of the nose, without epistaxis, and deafness; her eyes were very bright; she had a fulness of the head, but no cephalalgia; spoke abruptly; had slight oppression, but no cough; her anxiety was greater; her skin warm; her pulse one hundred and four, harder, and more corded. She had no evacuation from the bowels, but passed her water readily.

Thirty leeches were applied behind her ears; her deafness diminished for some hours, but afterwards returned.

From this day her symptoms were aggravated; her deafness was more marked, but never total. She was slightly delirious, especially during the night, but had no cephalalgia; her decubitus was dorsal. She was indifferent to what was passing around her, but nevertheless pretty calm. Her cheeks flushed and grew pale, alternately, especially during the days of the 27th and 28th.

Her tongue, which, from the commencement, had had more than three-fourths of its surface coated, with a small part at the tip red, and had been all the time moist, cleaned a little on the 28th.

She had neither thirst nor nausea, except on the 28th, after taking two spoonfuls of castor oil.

Abdomen free from pain, but a little meteorized from the 27th to the 30th.

The 26th, 27th, and 28th, there was suppression of urine. During from twenty-four to twenty-eight hours, between the 28th February and the 1st March, her urine was scanty, and flowed involuntarily.

Up to the 27th she had had no stools, except after the use of enemata. On this day, while her face flushed and grew pale alternately, she had suddenly two or three evacuations of sanious, black, fetid blood, which might be estimated at about a pound.

The 28th her stools were still bloody, but less in quantity, and thicker. I administered two spoonfuls of castor oil, with three of almond oil; the character of the stools was changed, and they became yellowish.

Her pulse was accelerated, beating from one hundred and twenty-four to one hundred and thirty-two; it was regular, but feeble; skin moderately warm, without perspiration.

On the 23d, thirty leeches had been applied

behind the ears; on the 27th, thirty to the epigastrium, and the same number behind the ears; on the 28th, thirty to the hypogastrium; on the night of the 27th, a blister to each thigh; diluent drinks and enemata were directed.

From the 28th February to the 6th March, there was no change in her condition. Her nights were calm, without sleep; there was an alternation of paleness and flushing of the face; very marked deafness, and stupor; her understanding was nevertheless clear. Decubitus dorsal; tongue slightly coated at its base, and red at its tip; abdomen less meteorized; stools of a yellowish colour, procured by injections; urine scanty, clear, and under the control of the will; her pulse had fallen from one hundred and thirty-two to one hundred and twenty-four, and was regular; skin moderately warm, and covered from time to time with a clammy sweat.

From the 6th of March her amelioration was evident, but very slow. There was no icterus; but her deafness, as well as her stupor, persisted for more than fifteen days. The patient had, during the first few days after she commenced to rise from her bed, a tremour in all her limbs,—and her intellect, although clear, appeared to be weakened, for she often laughed without a cause. Her appetite and digestion were perfectly re-established, but many precautions were necessary. Those who were about the patient, finding that things did not go on fast enough, took it in their heads, on the 10th of March, to give her an oleaginous mixture, which she threw up, without being otherwise incommoded by it.

During the remainder of her convalescence, there was a miliary eruption over her whole body. She recovered very slowly.

This case closely resembles that of Mdle. Alexandrine Giron, No. 3; it differs in many respects from the others which I have made use of, to establish the main parts of this memoir.

At first the disease was slow in its progress. The period of calm, so remarkable in yellow fever, was wanting. In fine, the course of the disease was entirely different.

The other cases of yellow fever terminated in the course of the first week: this continued grave during from seventeen to twenty days. It presented many symptoms which do not ordinarily exist, viz., deafness, carphologia, &c.

It is probably this form of the disease which has been considered as *gastro-entero-cephalitis*, by M. Vatable, physician to the king at Guadaloupe, in 1826. (*Annales Maritimes*, 13th year, 1828, No. 3.)

I did not have an opportunity of examining the anatomical lesions, to see if they were also different. But as this affection attacked Europeans who had recently come to the colony, and in the midst of the epidemic, I have thought that it ought to be referred to yellow fever, of

which it should be considered a variety. I have seen no similar affection at other times.

This case, and that of Mdle. Giron, are the only two of the kind that I have seen. It is worthy of notice, that in both cases the persons affected were females.

2d. I have also considered as a variety of yellow fever, the severe fevers which attack the natives of the country, while the yellow fever is prevailing. All who have written on the yellow fever of the colonies have confirmed this fact; but, during the last epidemic, it was more strikingly the case, the number of creoles attacked being much greater. Here is a remarkable example of it, of which one of our brother physicians was the subject.

CASE.

Charles Seisson, a physician, thirty-five years of age, of rather a feeble than strong constitution, a creole of Martinique, who had passed eleven years in France, but returned to the island six years ago. He led a very temperate life; he, however, frequently complained of palpitation of the heart. On the 11th of February, he was wet by a rain while going into the country. In the evening he had a chill, followed by heat and vomiting; during the night restlessness, fever, and headach. He was seen next day by Dr. Noverre.

12th February.—Considerable headach; eyes and face injected; skin warm; pulse frequent, full, and regular; no nausea; abdomen tense; no evacuation of the bowels; general uneasiness. Forty leeches were applied to the neck, and twelve ounces of blood taken from the arm. The cephalalgia diminished after the bleeding, but the fever continued of the same intensity.

13th.—Had passed a bad night; was in nearly the same state. Thirty leeches were applied to the anus.

14th.—Restlessness, and great anxiety on the part of the patient, about the termination of his disease; skin warm; no remission in the progress of the symptoms. Four spoonfuls of oil were administered; this purgative produced some nausea, and was followed by six stools.

15th.—Continuance of the fever, and restlessness. The patient felt no definite pain. At noon thirty leeches were applied to the epigastrium. About 2 o'clock he began to grow cold, and lipothymia ensued. (The leech-bites did not bleed much.) At 5 o'clock I was called in consultation.

The patient's face was of a dark red, his conjunctivæ injected, and the expression of his countenance savage; he did not recognise me. His forehead was warm, but his limbs were cold, and his pulse imperceptible. The muscles of the abdomen were tense, and pressure on them caused the patient to start. No vomiting; no evacuation, either of the bowels or bladder; no sweat. Some twitchings of the tendons were soon added to these symptoms. Since 2 o'clock, sulphate of quinia, and injec-

tions of cinchona, were administered, with blisters, sinapisms, and embrocations. At 5 o'clock he was seized with convulsions, and at 6 he died.

An autopsy was made on the 16th, at 10 in the morning. Condition of the exterior of the body:—Greenish yellow, with purple ecchymoses on the back of the neck, and in all dependent portions; rigidity such as follows death.

The skin was sticky, and, together with the dura mater, very much injected. The longitudinal sinus was filled with black blood, fluid, and without coagulum.

The brain.—The pia mater, at its base, as well as on its convex surface, was very much injected; it was easily detached from the substance of the brain. At its posterior part, there was a slight effusion of serum under the arachnoid membrane. The glands of Pacchioni were very much developed. The substance of the brain was somewhat soft, without, however, its texture being changed in any respect. Both portions were finely injected with black blood. The ventricles contained two spoonfuls of red-dish serum.

The lungs were well formed, and presented no adhesions with the pleuræ; their tissue was well filled with air. The inferior lobes of both sides were of a darker colour, in consequence of the stasis of the blood in these dependent portions. There was no where either effusion of blood, or hepatization in the pulmonary tissue itself. These lungs might be considered as being perfectly healthy.

The heart was larger than it usually is in a man of the age and size of Dr. Seisson. This augmentation might be estimated at one-fourth; it was principally owing to the dilatation of the two ventricles. The parietes of the left ventricle were three and a half lines thick. The orifices of the cavities of the heart offered no sign of ossification, or other organic alteration.

The blood contained in the ventricles, auricles, and in the aorta and vessels generally, was black and very fluid, and contained no coagulum.

The pleuræ and pericardium contained a scarcely appreciable quantity of serum.

The cavity of the peritonæum was free from effusion, or any other alteration. The stomach was very much distended and contained about a tumblerful of very thin black blood. Its mucous membrane was stained by the blood contained in it; but even after it was washed, it preserved a general red tint, without any distinct arborescence; it had no coating of mucus, and was fragile; but it was not softened, by which I mean, that if it was attempted to detach shreds of it, these shreds were shorter than they ordinarily are, and broke more easily.

The duodenum and the whole of the small intestines were coated with an abundant grayish yellow, and rather adhesive mucus. Be-

neath this layer of mucus, the mucous membrane, particularly in the duodenum, and towards the termination of the small intestines, presented injections of various forms and dimensions, and generally of a bright red. This mucous membrane, like that of the stomach, was more fragile than it is in its natural state.

In the jejunum, the glands of Brunner were prominent, whitish, and as large as millet seed.

The glands of Peyer were neither enlarged, nor ulcerated; they were difficult to distinguish.

The large intestines offered, especially in the rectum, a bright injection, similar to that of the small intestines. The mucous membrane of this portion was fragile, but not actually softened. The glands were not visible, and there was no other alteration.

The mesenteric glands were larger than they ordinarily are, by a fourth. They were hardly tinged with red, and were not softened.

The liver, considered in a general way, was not enlarged; it did not extend beyond the false ribs. It contained little blood, and its tissue was very hard and firm, being almost in the commencement of cirrhosis. It was of a brick-red colour. The two portions, yellow and red, were distinct; the yellow seemed to predominate. The capsule of Glisson was yellow. The gall bladder, viewed exteriorly, was almost semitransparent, and considerably distended; it was filled with clear bile, which was serous, whitish, and very fluid. The mucous membrane lining it was the seat of a remarkable red injection, in the form of rounded spots, which bore some resemblance to the marks left by a very recent attack of variola. This injection was no where arborescent. There was no mucus in the mucous membrane, which could be raised in long shreds of considerable strength.

Some of the glands situated along the course of the biliary ducts, were double their ordinary size, hard and yellowish, and crushed under the fingers; they were in a truly morbid condition.

The spleen was a third larger than we usually find it, and was filled with black blood; its tissue was firm.

The kidneys were of a deep colour, and were filled with blood, but were not modified in their structure. The bladder bent upon itself, contained some turbid urine, full of mucus. Its mucous membrane was pale and smooth.

All the tissues, when cut, yielded very fluid blood of a black colour.

We will not lay any stress on the lesions which evidently occurred previously to the disease, (those of the heart and liver.) The case of Seisson resembled very much that of Mad. Clozet. It would be called a case of congestive fever. But although this course and this termination are not usual in yellow fever, is it possible not to perceive the greatest analogy between affections which are equally attended

by black matter in the stomach, icterus after death, and alteration of the biliary ducts, of the blood, and of the whole intestinal canal?

In my own practice, I can enumerate thirty-eight persons, either born in the country, or acclimated for ten or fifteen years, who, nevertheless, were attacked by the disease. All the physicians agree in making the same observation. These persons, however, had the disease more mildly. Among thirty-eight patients of this description, but two deaths occurred.

3dly.—In the months of May and June, the disease, in a majority of cases, presented differences enough to constitute another variety still. Here is an example of it.

Case.—M. Second, of the ship *Neptune*, twenty-three years of age. He was very well on the 19th of May. In the evening, while returning to the ship, he fell overboard and got wet. In the night he was taken with a severe chill, which was quickly followed by a high fever, with a contusive pain in the limbs, and also a pain in the loins.

On the morning of the 20th, I found him in the following state: cephalalgia intense; pupils dilated; face highly coloured, intellect somewhat dull; contusive pain in the limbs. He complained of a pain in the epigastrium; his pulse was at fifty-four, and his skin preserved its natural state without any morbid degree of warmth. Towards evening there was superadded to these symptoms, a restlessness very remarkable on account of its being at variance with the state of the pulse, and temperature of the skin. He was bled twelve ounces, the blood being of a very dark colour, and two blisters were applied to his legs.

He passed the night well enough; the cephalalgia was somewhat diminished; pulse sixty-four: restlessness and pain in the epigastrium. Thirty leeches to the epigastrium and a purgative enema. From this moment the patient got better and better, and on the 26th he was able to return to his ship.

He enjoyed good health until the 13th of June, when he had a relapse nearly similar to the first attack, which lasted eight days. He recovered, but some days after he showed symptoms of mental derangement. All these symptoms disappeared, and he left for France perfectly cured. He was bled five times.

At the time of making these observations, I had three other cases of a similar nature, that is to say, that the symptoms of the first period, which, at the commencement of the epidemic, lasted at least a day, only showed themselves for one, or at the most two, hours, and were replaced by those of the second period, (called *period of calm*.)

This form was less grave, and more under the control of medicine.

I learn from M. Catel that he had made the same observation at the hospital, after seeing a much greater number of patients.

It is also at this period of the epidemic, that hæmorrhages from the nose and mouth recommenced to appear, as I have already said, and appeared as favourable signs.

Lastly, I shall describe as another variety of the epidemic, that which attacked the children. Almost all in the city were affected. In my own practice, from October to July, I counted as many as eighty-four. Of this number, I lost but two; the disease then was less severe than among the Europeans. The two who succumbed were brothers. Here is the account of one of them.

Case.—A child named Page,* eight years of age, of a moderately stout frame, but very lymphatic, having a fair semitransparent skin, and slender muscles. His health, however, was habitually good. On the 12th of April he was sprightly, and ate with a good appetite. During the night of the 12th he was restless, and when he awoke the next morning, he complained of great pain in the head; skin hot, pulse frequent, face flushed; he vomited twice. They gave him immediately some cassia, both by the mouth and rectum, which produced three evacuations.

I saw him on that day, at eleven o'clock in the morning. Cephalalgia with coma; eyes injected; skin warm; pulse one hundred and twenty, and regular; abdomen yielding, and free from pain; no pain in the epigastrium; a free flow of urine. The night of the 13th there was restlessness; four stools; urine rather scanty; the stupor appeared to be a little diminished; but as the day advanced, this symptom increased; three stools during the day; pulse one hundred and twenty; some twitchings of the limbs, and of the muscles of the face; urine very scanty.

At three o'clock, twenty leeches were applied to the epigastrium, and two blisters to the legs. His face became very pale after the loss of blood; the coma more profound, and the pulse more frequent, rising to a hundred and twenty-eight.

From this time to that of his death, which took place on the evening of the 16th, the coma continued without intermission, combined, however, with great restlessness; the child lay in every position on his bed, without keeping any one for a long time.

From time to time he had some twitching of the tendons and even a little carphologia. He frequently opened his eyes; his look was fixed, and ended with a slight strabismus.

When questions were put to him in a loud voice, he answered as if he had been awaked from a sleep; his answers were not always straight, and he was even delirious.

* This child's mother was a teacher. She had lost, fifteen days before, his brother, six years of age, who died of the same affection; these children, however, were the only two in the establishment that were sick.

On the 16th, he had a slight pain during deglutition. He retained his strength to the last moment in a remarkable degree; he could raise himself to a sitting posture, and keep it quite firmly.

His abdomen, during the whole time, was yielding and free from pain; his urine continued very scanty: he passed at the most, one or two spoonfuls in twenty-four hours. His stools, after enemata of cinchona and assafoetida, increased, (there were eight or nine on the 16th) and contained some clots of blood. From the 15th, the heat of skin was wanting, and the extremities grew cold; this coldness went on increasing continually; the pulse also became imperceptible thirty-six hours before death. The skin assumed a slightly jaundiced tint.

The child died on the 16th, at ten o'clock in the evening. During the first two days, cinchona, assafoetida, and camphor were tried.

The autopsy was made at eight o'clock on the morning of the 17th. The body was of a very pale yellow, with some purple colouration on dependent parts; the longitudinal sinus contained fluid blood without a coagulum. The meninges, though examined with the greatest care, showed no morbid injection; they were rather pale, and were easily detached from the brain. There was no serous infiltration under the pia mater. The ventricles of the brain contained only two tea-spoonfuls of serum. Both the substances of the brain were firm, and moderately injected. The lungs were perfectly healthy; the bronchi pale. The pleuræ and pericardium contained no effused serum. The heart was soft and flaccid, and contained some fluid black blood, without coagulum. The aorta was not coloured.

The stomach was little dilated, and contained about two ounces of a black matter, resembling coffee grounds, but no mucous; its colour was generally whitish, interspersed with very fine red points, which looked like little dots under the mucous membrane. There was neither *ramollissement*, nor thickening.

The consistence of the mucous membrane was, however, somewhat fragile.

The small intestines were coated with an abundant grayish matter, and offered here and there patches of black matter like that which was found in the stomach. Their mucous membrane was generally whitish; but here and there was seen a minutely punctated colouring, similar to that of the stomach. It was of a fragile consistence, especially near the cæcum.

The glands of Brunner were quite prominent throughout the whole extent of the intestine; but the glands of Peyer were not visible.

The large intestines presented a grayish matter, and a more deeply injected appearance than the small intestines. This injection was not arborescent, but disposed in uniform patches like an ecchymosis. Its consistence was good,

but somewhat fragile; the shreds of the membrane were only half an inch long.

The mesenteric glands were firm and of a whitish colour, and a little more developed than they commonly are.

The liver was of its normal size; but it was yellow like Spanish tobacco; this colouring was uniform; the two substances of which it is composed, could not be distinguished. Its tissue was of a firm consistence, and a little sticky.

The gall-bladder contained a small quantity of blackish and rather fluid bile; its mucous membrane was healthy and showed no injection.

The spleen was firm and of its ordinary size.

The kidneys were unchanged. The bladder offered an injection which was decidedly arborescent, and had its seat in the submucous tissue. The mucous membrane afforded very long shreds. This injection appeared to be inflammatory. (The child had had three blisters applied.)

Notwithstanding the differences which the history of these symptoms present to us, I think that one would be struck with the perfect similarity between the anatomical lesions found in this child, and those which we have before seen to exist in adults.

The other cases which I had to treat, were not so grave. In almost all of them, the disease made its appearance very suddenly; at its commencement, the symptoms were very marked at all hours of the day;—intolerable headach, chill, heat, high fever, often vomiting, more or less frequently repeated, convulsive movements, and, in four cases of children, actual convulsions during a quarter or half hour. During the first few hours, in connection with the fever, succeeded a drowsiness, from which nothing could rouse the patient; the children, however, retained their intellectual faculties. The eyes were injected, the pupils dilated, face flushed; a little thirst, anorexia; abdomen yielding, and free from pain; no stools.

These symptoms, except in four cases, disappeared after a lapse of thirty-six or forty-eight hours, and the children immediately entered a state of convalescence. Their faces, however, were pale, shrunk, and more altered than any one would imagine they could be, after so short an illness.

About a third vomited worms; in these cases the vomitings were sometimes preceded by *malaise*, pallor, agitation, pain in the epigastrium, and a countenance expressive of distress, but the worms were frequently voided by stool. One child passed thirteen. In these cases, although our attention was directed to the subject, we were unable to note any particular symptom as revealing the presence of these animalcules in the *primæ viæ*.

Of three very severe cases, which were all that occurred in my practice, two proved fatal, one

was cured. The most conspicuous symptoms were continued drowsiness, and fever without remission, and in the two fatal cases, black vomiting during the last two days, precisely similar to the black vomit of yellow fever. I learn from my brother physicians that, in the fatal cases which came under their notice, the vomiting of black matter also existed.

As for the anatomical changes, there has already been seen, in the case of little Page, an injection of all the organs, and a yellowish discolouration of the liver. In another autopsy, which I had occasion to make, in company with M. Boulin, we found the membranes on the convex portion of the brain, almost colourless; but the large vessels at its base were very highly injected, and there was an effusion of blood to the amount of nearly three spoonfuls in the lower portion of the arachnoid cavity. This blood was black, contained a little serum, and coagulated on exposure to the air. The substance of the brain was firm. The lungs and the heart contained some black blood.

The stomach and intestines were pale, and their mucous membrane somewhat fragile; but they did not exhibit any particular lesion.

The spleen was in its natural state; but the liver was yellowish, and there was no distinction between the two portions which enter into its composition: it retained its ordinary volume. The gall-bladder was moderately dilated, and contained a spoonful of bile, of a dark greenish colour, and very fluid; its mucous membrane was not injected.

The body exteriorly, presented a yellow appearance, which was rather the result of discolouration, than of icterus.

This child was an European, seven years of age, had been in the colony eighteen months. He had been sick five days, with headach, coma, black vomit from the third day, delirium and convulsive movements; such had been the principal symptoms. They had put on him one hundred and fifty leeches, and had made applications of ice to his head.

I am of opinion that the city lost about fifteen children in this manner. This estimate is made from some data furnished by the other physicians of the city, and an examination of the reports of the civil authorities.

Generally the patients thus affected, were little boys; only twenty-two out of eighty were girls.

They were, with few exceptions, from three to twelve years of age, and the chief determining cause was a great degree of exposure to the sun, which agrees very well with the age and sex of the children.

It is impossible not to see a strong resemblance between this affection of children, and the yellow fever of Europeans. Might not this arise from a similarity in the state of their blood. Generally, the creole children, in early age, have a fresh complexion, almost as rosy as that of Europeans, but towards the age of

eight years they grow thin and pale, and assume what is very well known here under the name of *creole complexion*. The same happens to Europeans after an attack of yellow fever, or a long residence in the colonies—they acquire the creole complexion. It is the seal of acclimation.

In the accounts of the preceding epidemics, I see no notice of children born in the country suffering with an affection closely resembling yellow fever, simultaneously with the occurrence of the latter disease among Europeans.

Those affected were principally white children; some mulattoes were among the number, but I saw no negro children who were attacked by the disease. This yet remains to be observed.

With some children, as with some adult creoles, the disease presented an intermittent type; that is to say, that, after a severe paroxysm which lasted from twenty-four to forty-eight hours, there was a notable apyrexia, followed by some paroxysms of a less severe character. These cases were not the most grave: the fever was arrested by sulphate of quinine.

There were seven or eight relapses which were not attended with any grave symptoms.

If we now consider the epidemic as a whole, we shall perceive very distinct phases.

From September to December, it prevailed principally in the garrison: almost all the soldiers there were attacked by it. But few cases could be cited in the city.

In December and January it was the city that furnished the greatest number of sick; the number in the hospital diminished.

Towards the end of January, there was a remission of the severity of the disease.

It seemed to regain its vigour in February.

From March to July it prevailed chiefly among the merchant ships: it is a remarkable thing, that until that time but very few of their men had been affected, although their number was quite considerable.

In March, the disease extended to Fort Royal; and from February there prevailed in the other parts of the island fevers of a grave character. Some remarkable deaths were related; among others, that of M. Desvoves, a young physician, a creole, who had resided ten years in France, and since his return to the island had practised two years at Lamentin. According to the accounts which I have been able to obtain, these fevers resembled very much that of St. Pierre.

At St. Pierre, the number of sick seemed to be dependent on certain days; that is to say, that on some days five or six fell sick at once, and after that there were no new cases. These inauspicious days were not marked by any particular circumstance. Many physicians attributed it to the westerly wind which prevailed at that time.

Having once shown itself in certain localities, the disease appeared to attach itself there, and many fell victims to it. There were houses for which it seemed to have a predilection. I will cite as an example the nunnery of St. Joseph. After having been exempt until March, this convent was then visited by the disease. In the space of one month, six nuns and many pupils were taken sick; two of the former died. There was nothing peculiar in these localities.

It was the same case with the shipping; many vessels were in the roadstead for fifteen or twenty days without having an individual on the sick list, but when one fell sick, many others followed. Many writers have pretended that it was at the opening of the hold, that the disease showed itself among the sailors. The ship *Edward* had come in ballast, having nothing in her hold but fine sand. The ship, *Les deux Amélie*s, of Bordeaux, had discharged her cargo, and her holds had been open for more than twenty days, when the first man was taken sick aboard.

The concomitant affection with which children suffered, prevailed in the city throughout the whole duration of the yellow fever, but it was in April and March that its victims were most numerous.

CAUSES.

We have already said that the yellow fever did not reach Martinique before it had visited Tampico, New Orleans, and Havana, in 1837, and Gaudaloupe in July, 1838. We have asked ourselves whether the yellow fever did not pursue a rout from west to east, as the cholera did from east to west.

Importations.—When the disease made its appearance at St. Pierre, in September, the stormy season had fully set in. Ships coming from Europe remained at Fort Royal. They did not return to St. Pierre until the 25th October. We had taken the precaution of quarantining, at Fort Royal, all the coasting vessels from the infected colonies. And yet the disease did not extend to Fort Royal until March, (four months after its appearance in the island,) but at St. Pierre it manifested itself in September.

Can any fact demonstrate more conclusively than this that the yellow fever is not imported in vessels.

The disease made its first appearance in the garrison, then spread to the city, and lastly, prevailed in the roadstead. It is then neither from any infected ships, nor any salt marsh, that it proceeded. The roadstead was attacked at the period of harvest, when there was a considerable arrival of ships. Therefore, in all epidemics, the most thickly peopled places are most liable to be affected by the disease. The cholera, which was confined to Marseilles for six weeks, appeared in Beaucaire at the time of the fair in that town.

The barracks, the hospital, and the houses of those first taken sick, were not the places nearest to the sea. These houses were widely separated from each other, and were frequently in the most elevated situations in the city, (see especially the case of M. Fraquet.)

These facts are in opposition to all ideas of its importation.

Infection.—Let us now examine the facts relative to its being infectious. Let us see if, when the disease had appeared at any point of the city, it was on this point that it first concentrated its force, in order to spread towards others.

The disease commenced in the garrison; but the first who were taken sick in the city, M. Fraquet at the fort, and M. Belligny at the anchorage, were at a distance from the barracks, and had had no communication with them.

Almost all the garrison were on the sick list, except thirty or forty men, out of about five hundred.

When all the soldiers had passed through it, there was a short truce, but in March, two hundred men having come from France, the garrison recommenced furnishing its contingent.

But at the hospital, even the wounded, the venereal patients, and those labouring under other complaints, were taken with the yellow fever in their beds, after those infected with this disease were brought to the house, which is a very remarkable thing. Almost all the persons employed in this establishment were attacked, although they had been acclimated for a long time. Of eleven *sisters of charity*, ten were taken sick, and seven died. M. Catel himself, though he had passed twenty years in the colonies, as many in Senegal as in Martinique, experienced the epidemic influence. So that the hospital, during six weeks, appeared to me to be truly the seat of infection, but the neighbouring houses were exempt. I have already said that several houses, among others the nunnery of St. Joseph, had been distinguished as being particularly afflicted; they were at a distance from the hospital.

As regards the ships, the disease having once shown itself among them, many became its victims in rapid succession. It did not, however, follow the order of their position, that is to say, that the second ship affected was not moored alongside of the first. I have said that it was not at the time of opening the hold that the disease occurred. Its occurrence could not be referred to any particular circumstance, for the ships which contained freight, and those which had come in ballast, were attacked without any distinction.

I am, then, inclined to think that during the prevalence of the epidemic, certain places might be considered to have been as it were the foci of infection, that the infection was

confined to these places and did not extend around.

Contagion.—As regards its being communicated from one individual to another, I have seen nothing which can warrant a belief in this method of transmission. I have seen women nurse their husbands, and persons nurse their friends without contracting the disease. The following is a remarkable fact. The governor going from Fort Royal to St. Pierre, took with him the musicians of the regiment, (in October, 1838.) The latter, seven in number, were lodged in the barracks of the garrison. Eight or ten days after their return to Fort Royal, the seven musicians were taken with the yellow fever, and five of them died. But the disease stopped there, at that time, and it was not until March, three months after, that it invaded the garrison and city of Fort Royal. Nevertheless the musicians had been permitted to remain among the other soldiers in the barracks, as well as in the hospital; no precautions had been taken for the purpose of isolating them. Can any fact demonstrate more clearly than this, that the yellow fever is infectious, and not contagious.

Meteorology.—Let us now study the meteorological conditions that existed during the prevalence of the epidemic.

The thermometer stood as follows :

	Highest temperature.	Lowest temperature.
October	- 33 degrees C.	28 degrees C.
November	- 33 " "	27 " "
December	- 32 " "	26 " "
January	- 31 " "	24 " "
February	- 33 " "	26 " "
March	- 34 " "	27 " "
May	- 34 " "	27 " "
June	- 33 " "	28 " "

The barometer varied from 760 to 766. The hygrometer from 70 to 100 constantly. This was the case during the whole time.

The pluviometer gave the following results :

October,	9 inches	3 lines of rain.
November,	14 " "	2 " "
December,	5 " "	2 " "
January,	8 " "	6 " "

From February to June, it was dry for seventy days, during which time the pluviometer showed only one inch and six lines; but during the remainder of the month of June, there fell 9 inches 6 lines.

At the commencement of the epidemic, there occurred in October nine storms; but since then we have had but two, which took place in June.

On the 11th of January took place the earthquake, which has been described in all the newspapers. This dreadful event had not been announced by any precursory disorders of nature: it could have had no influence on the epidemic.

As for the indications of the barometer, we must pass them over, they vary so little in the

torrid zone, that no importance can be attached to them.

If we now turn our attention to the thermometer, we will see that during this year it has indicated the usual temperature of the colonies during years in which they were exempt from the yellow fever. The inhabitants, however, complained that the cool season, from December to February, was not so pleasant this year, which they attributed to the prevalence of westerly winds.

The rains during the last winter did not exceed their ordinary quantity; they were conspicuous enough in November, but from February, to June there was an uninterrupted drought.

Therefore, whether the thermometer stood high or low, whether it rained or shone, whether it was warm or cold, the yellow fever prevailed with the same intensity, without its progress appearing to be in the least influenced by the seasons of the year.

Maker, in his report, thought that he had detected some influence on the part of storms. But although in October (a period in which this phenomenon is frequent in the colonies) we can enumerate nine, yet during the eight months following this, they scarcely occurred at all, and, notwithstanding, the yellow fever continued to prevail.

We cannot say the same with regard to the direction of the wind. Every one remarked that it blew from the west more constantly than it had done during previous years. A comparison of the meteorological tables confirms the common observation. Dr. de Ver-teuil of Trinidad, and M. Corneut of Guadeloupe, insist upon this fact. These westerly winds come from the upper part of the Gulf of Mexico, from the direction in which the yellow fever prevailed on the continent during the preceding years. However, I only give this as a remarkable fact, and not as an evident cause of the yellow fever.

Sex.—It is generally agreed, that the yellow fever attacks men more frequently than women.

It would, however, be difficult to establish this opinion through what has taken place in the colonies. The great number of men that come to this country, sailors, soldiers, and small traders, bears no comparison with the small number of women. We can hardly enumerate any of the latter. If I were guided by an approximation, based upon my acquaintance in the city, I should say that the yellow fever attacked as many women (comparatively speaking) as men. I attended seven women; three were slightly affected, four gravely; one of the latter died. I have already said, that at the hospital, out of twelve sisters of charity, eleven were taken sick, and six died. At the convent of St. Joseph, there were eleven sick, of whom two died. These facts would make out that the disease was more severe with women than with men.

Age.—I must make the same observation with regard to age, that I made with regard to sex: few children or old men come to the colonies from Europe. To supply the deficiency of my own experience, I interrogated the natives who, on account of their intelligence or character, seemed to be worthy of confidence, and they all assured me that they had rarely seen old men attacked by yellow fever, while many instances were mentioned of children who suffered the preceding epidemics. I have myself reported one case of this kind.

I have heard of a man who died of yellow fever at the age of sixty, during this epidemic. He was a surgeon dentist, named Toby, who was travelling for pleasure. He insisted upon treating himself homœopathically. I could not ascertain how many billionths of a grain he had taken. The greater portion of those attacked were from 25 to 40 years of age.

Acclimation.—The period of acclimation is the condition which, above all others, deserves to be taken into consideration. The yellow fever not having existed at Martinique since 1826, we saw, at the commencement of this epidemic, many persons attacked by the disease, who had been in the island for three, seven, or ten years; but these were not so severely sick as others. Towards the end of the epidemic, those persons who had not quitted the country, did not take the fever; it was only the new comers that were affected.

In my practice I had more than twenty cases of adult natives suffering with a fever which exhibited the same character as that which attacked Europeans. The greater part of these persons had made, a greater or less length of time before, (from two to ten years) a voyage to Europe.

I saw no inhabitant of the elevated parts of the island who took the disease upon coming to the city. This was also remarked by other physicians of the preceding epidemics.

If I were governed solely by the results of my own observation, I might affirm that the disease neither prevailed among mulattoes or negroes, (with the exception, however, of some mulatto children:) but I must make it known that I visited principally the white portion of the inhabitants, that the free negroes prescribe for themselves, and that only one or two visits are required for the slaves. The general opinion, however, is, that the negroes and mulattoes were entirely exempt, and if the bills of mortality be consulted, it will be found the mortality among these two classes was not greater than in other months, or in the same months of the preceding year.

List of Patients furnished to the Hospital by the ships, arranged according to the places from which they came.

Bordeaux,	35 patients furnished by 10 ships.
Marseilles,	30 " " " 11 "
Havre,	137 " " " 34 "
WHOLE No. 85. 15	

I have classed, with those from Havre, three ships from Dunkirk, and two from Nantes. A great number of sailors were treated in the city, whose number it would be impossible to ascertain.

It is shown by this table that the ships from the north furnished a greater number of patients than those from the south. This had also been remarked by MM. Rouchoux and Dariste in the preceding epidemics.

Constitution.—Individuals of a sanguine temperament, very muscular, and of a fine complexion, were the most readily and most severely affected; this is indisputable. Nervous persons, of great sensibility, were also unfavourably circumstanced. In running over the list of my patients, and subjecting them to a moral examination (which is quite an easy thing for a physician in a small town) I perceive that a restless, envious mind, and an eagerness to make a fortune, were also unfavourable conditions.

BIBLIOGRAPHICAL NOTICE.

THE WESTERN JOURNAL OF MEDICINE AND SURGERY: Edited by DANIEL DRAKE, M. D., and LUNSFORD P. YANDELL, M. D., Professors in the Louisville Medical Institute. No. 1. January, 1840.

THE Western Journal of Medicine and Surgery, fills the void which has for a short time existed in the periodical medical literature of the west. It is intended more particularly to take the place of Dr. Drake's Cincinnati Journal, and of the Louisville Journal of Medicine and Surgery, both of which were lately suspended. The number, just received, is the first of a monthly series, and contains eighty-six octavo pages, neatly got up. Its prospects of success are, we think, good, occupying, as it does, the western field without competition; while from the reputation of the editors, and the merit of the number now issued, we have the promise of a useful and valuable addition to the corps of journals. It is but fair to mention that, although the character of the present number is highly creditable to the editors, they are unwilling it should be taken as a specimen of future numbers, which they feel confident of their ability to improve under more favourable circumstances.

We perceive that the new journal has enlisted the aid of a lively and powerful pen, with whose vigorous performances, if we mistake not, the profession has been long familiar. To this source we are now indebted for an

able review of the lectures of the late Professor Hosack, published here about a year since. In the course of strictures upon this work, a question of much general interest is discussed, and an opinion advanced upon a point of medical education, to which we cannot altogether subscribe. The reviewer takes the ground that *practical* medicine cannot be taught to western pupils except by writers or lecturers of their own section of country. The mode of practice recommended in Dr. Hosack's work he considers utterly unsound, as respects the complaints of the Western States. "Nothing could tempt him to teach or recommend it to western students of medicine, and he would deeply grieve to see a sick friend treated in conformity to it." He is hence strengthened in the conviction that "the professors of the Atlantic schools are not qualified at all to communicate to their pupils such views of practical medicine as are suited to the diseases of the Mississippi valley."

In expressing our dissent from these views, we have no wish to give any particular or local bearing to our remarks. We have no doubt that western pupils may be perfectly well educated in every branch of medicine at Louisville, and other western schools, and feel satisfied that they will in general resort thither. But if the doctrine be carried out, that a student is to study medicine just in the spot where he is to practice it, our friends at Louisville will be narrowed down to a much more limited range of pupils than the "valley of the Mississippi." We apprehend that the same variety may be found between the diseases of different points of this locality as between many of them and those of the seaboard. A man of intelligence, who is thoroughly grounded in the elements of medicine, will find no difficulty in adapting general principles to peculiar circumstances. Practice, and practice only, will familiarize him with the characters of the epidemics which he is to encounter,—and these will vary with the varieties, not only of climate and latitude, but of years and seasons.

Besides, speaking comprehensively, the diseases of the middle States do not differ from those of the southern and western, except in degree; and a sound, judicious practice, is equally applicable to both. This is not

a mere theoretical opinion; we have the direct testimony of fellow students, who have been for some years in practice, and of pupils who have entered upon practice within the last few years. Their testimony extends to every one of the southern and south western States, and to nearly all of those north of the Ohio river. There are, undoubtedly, many more cases, of what is called, in America, congestive fever, but is more generally known by the name of malignant and pernicious intermittent. But the diseases with us are the same as in the South, though generally of a much less degree in character.

We shall terminate these remarks with an extract from a letter from the middle of Tennessee, which alludes to congestive fever. "This," says the author, an accomplished physician, well known to one of the Editors of the Louisville Journal, is "nothing more than a malignant grade of intermittent. There is much in it calculated to alarm. It requires close watching, and a physician in this region, where his practice includes a large scope of country, loses a case occasionally, because he cannot give it the close attention required. One thing I have observed here, our pleurisies are more violent than yours; it is rare to meet with a case uncomplicated with pneumonia from the commencement."

In all parts of the United States, where fevers of the intermittent and remittent kind exist, these diseases are sufficiently alike for study.

CLINICAL LECTURE.

PHILADELPHIA HOSPITAL.

Wednesday, February 5th, 1840.

LECTURE ON DROPSY—PATHOLOGICAL ANATOMY OF DROPSY, DEPENDANT ON DISEASE OF THE HEART, AND OF THE KIDNEYS.

By W. W. GERHARD, M. D.

No. 12—Winter Course.

In a demonstrative and somewhat discursive course of lectures, like the present, it is useful occasionally to look back and measure the ground that we have gone over, before we proceed to other subjects of a different nature from those which have principally occupied our attention. During the present course, I have had it in my power to demonstrate to you a great many varieties of pulmonary and cardiac diseases: for such illustrations the season

affords the most favourable opportunities. Among the affections which have been presented to your notice, you have witnessed some very rare forms of pulmonary disease, and of their accidental complications. I refer to gangrene of the lungs, and pneumothorax. Two cases of the former have been before the class; of the latter you have seen one case,—and such of you as desire it, have an opportunity of seeing another, which is now in the wards. Of the more frequent forms of pulmonary disease, viz., bronchitis, pneumonia, phthisis; and pleurisy, you have seen numerous examples; and the pathological anatomy of each has been fully demonstrated to you.

You have also had the opportunity of observing many interesting cases of cardiac disease, including hypertrophy, pericarditis, and endocarditis. The knowledge of these affections will be of great importance to you, as, independently of the interest immediately connected with them, they will enable you to understand the nature of many chronic diseases, which cannot be clearly investigated, nor successfully treated, without a proper acquaintance with the primary lesions from which they originate. The season has not offered us many instances of affections of the abdominal viscera. You have nevertheless observed cases of gastritis, intercurrent to other diseases: of dysentery, of jaundice, and of diarrhoea, particularly that form of it occurring in phthisical patients. Cerebral diseases have been more frequent, and in many instances of a grave character. I have presented to you examples of simple acute arachnitis, of tubercular meningitis, and of subacute meningitis,—all of which affections are of frequent occurrence, and often require the attention of the private practitioner. You have also witnessed diseases of the substance of the brain, as softening and apoplexy,—the latter of which was a short time since very fully illustrated by a case of abundant effusion of blood into the corpus striatum and the right ventricle of the brain.

Thus I have illustrated most of the ordinary varieties of disease, with the exception of dropsies and fevers. I shall say something of the former in the present lecture. As to fevers, at the commencement of the course I showed you a few examples of the intermittent and remittent types; but of the two most interesting forms, (typhus and typhoid,) contrary to my expectations, no cases have as yet occurred. But it is probable that I may yet have an opportunity of showing you some cases before the close of the course. For it is unusual for a winter to pass without cases of the latter disease; the former is more irregular in its appearance, and usually occurs only from time to time as an epidemic.

I have, on different occasions, particularly insisted on certain points of great practical importance. One of these is, that certain diseases have a natural course and termination, from

which they never deviate, unless some unfavourable circumstance should interfere with the operations of nature. Another of these principles is deduced as a corollary from the preceding: it is, that we should never interfere with such cases of disease by an active treatment, if every thing is going on in the usual favourable manner. This principle is of such immense importance in practice, that I always take the greatest care to urge it upon the attention of the class. A disregard of it has been the source of no little discredit to the medical profession. It is obvious, that when a disease is progressing favourably to a natural termination, all active measures can only annoy the patient, without hastening a successful issue. There are certain mild remedies, which can do no harm; and appropriately used, favour the natural course of things,—and with this view, they may be safely employed. Such are diaphoretics and laxatives. More severe means never fail to distort and aggravate the aspect of the case. But there is a proper medium in this, as in every thing else: it will not do to carry the *expectant* treatment which I have advised, too far. When a positive and manifest benefit can be derived from active measures, our duty to our patients demands that we should employ them. But, I again repeat, that there are many cases in which we can promise ourselves no such good from active treatment, and here our duty equally requires us to abstain from it.

Before proceeding to the proper subject of the lecture, I will show you several patients whom you have lately seen, labouring under acute diseases, and who are now convalescent. The first was before you last week; you will recollect that he was then in the declining stage of pneumonia, which had been attended with severe and protracted hiccough. I then stated that the duration of the case would probably be nineteen or twenty days. The patient began to convalesce on the 27th ult.; the attack commenced on the 8th; so that the disease continued just twenty days. Our treatment, though active, could not diminish this duration; the attack had continued ten days before the patient's entrance; and it is a well settled principle, that no means are competent to cut short an attack of pneumonia, if delayed more than two or three days from its commencement. The disease must go on; all that we can do, is to palliate the symptoms. The hiccough was one of the most troublesome symptoms in this case. This is always an unfavourable circumstance in the prognosis of acute inflammations, because it indicates a considerable degree of disturbance in the nervous system, and because, moreover, it tends to increase the disturbance, by the harrassing motions which it produces. Assafœtida failed to produce any relief in the present instance; but the oil of amber, in doses of six drops, finally quieted the hiccough. Musk would have been

used in preference to either of these articles, if there had been any of good quality about the hospital; but the musk which is kept, even in the best drug stores in the city, is often of such bad quality, that it is almost useless as a medicine. The remainder of the treatment in this case was conducted on the ordinary antiphlogistic plan,—by bleeding, cupping, and the administration of opium, calomel, and digitalis.

Case 2.—This patient, who has been affected with gangrene of the lungs, you have already seen several times. He has now perfectly recovered from the original disease, but has been seized with bronchitis. This secondary affection arose from our inability to complete the recovery of the patient by the enforcement of those hygienic regulations, which are of so much importance in convalescence from acute disease. The private practitioner derives the most efficient aid from such measures, which we are altogether unable to adopt in hospitals. The patient is also threatened with tubercular disease, the development of which, in a man so far advanced in years, is very uncommon.

Case 3.—This is another case of pneumonia; the patient is the old soldier whom you saw at the last lecture. It was a very mild case of the disorder, and readily yielded to the use of gentle diaphoretic means, the principal of which was the infusion of eupatorium.

Case 4.—This man had jaundice complicated with slight bronchitis; he is now perfectly well. The jaundice was treated by cups to the right hypochondrium, and saline laxatives. I have lately received from Dr. Jackson of Boston, formerly professor in the medical department of Harvard University, a paper on this disease, in which he lays great stress on the application of leeches in all cases. There can be no doubt that this is an excellent treatment in a great number of cases; whether it is equally efficacious in those which are not inflammatory, remains to be proven. The present case was one of those dependent on slight inflammation of the liver, and yielded readily to cupping and purgation.

Case 5.—This man has had a severe attack of pleuro-pneumonia, from which he is now recovered. But he is still very much emaciated, and his cheek is flushed; his emaciation, instead of diminishing with the progress of convalescence, has rather increased. He, therefore, cannot be considered well, and will require the greatest care to prevent the development of a tubercular disease, with which, as I have more than once stated to you, he is threatened. The tendency to this affection was first awakened by an intermittent fever, and was still farther favoured by the supervention of acute pneumonia, before his recovery from the former. Our patient must, therefore, still be considered as in imminent danger. Cases of phthisis, succeeding badly cured intermittents, are by no means unfrequent in districts where miasmatic fevers prevail. There is, perhaps,

some foundation for the opinion, that intermittent is a sort of antagonizing disease to phthisis, but this evidently does not hold good, with respect to the enfeebled condition of the body, remaining after attacks of intermittent.

Case 6.—We have here a case of genuine acute anasarca. The patient, a man aged thirty-nine, entered the hospital yesterday. He has uniformly enjoyed good health until lately. He has been intemperate during the greater part of his life; but about six months since, he relinquished the use of ardent spirits, finding that he was enfeebled by it. He continued his ordinary occupation until two months since, when he was seized with severe pain in the right knee, which soon began to swell; in a short time, the pain and swelling also attacked the left knee. Frictions with spirits of turpentine and mustard, were used without relief. The swelling gradually extended to the feet, legs, abdomen, and arms. The patient took some doses of salts, and anti-bilious pills; but little or no change was experienced, previously to his entrance into the hospital yesterday. Swelling was then observed in the eyelids, arms, legs, and abdomen; pulse was one hundred, and full; tongue coated; skin warm and dry; legs still painful. The urine was tested both by nitric acid and heat, and found to contain a large quantity of albumen. Cups to the lumbar region, and infusion of senna and salts were ordered.

This is evidently, from the symptoms enumerated, a case of acute dropsy. It is proper that I should fix your attention more particularly on one or two points connected with the case. No swelling was perceptible until two or three months since; it is not, therefore, a dropsy of long standing, which was temporarily relieved and returned. It is very common to witness cases of anasarca, in which the swelling is apparently dissipated by the use of hydragogues and diuretics. But such cases are not cures; the swelling is exceedingly apt to return after a short interval. I recollect a case of this sort, which occurred while I was a resident in an hospital. The dropsy was treated with elaterium by a practitioner of great experience, and, to all appearance, entirely cured; as I saw the patient often, and was more familiar with his case, I requested that the patient should be suffered to remain for a time in the wards; he did so, and in a short time the swelling returned, evidently because the primary affection from which it originated, was not removed by the treatment.

The patient before us, as you perceive, is œdematous over almost the whole body; every part fits on pressure; there is, therefore, a general infiltration of serum into the cellular tissue. The abdomen participates in the general swelling, but no pain is experienced in any part of it. The liver always calls for a very particular examination in dropsy, more especially in ascites. In this case, there is a very

slight fulness in the right hypochondrium ; but no tenderness on pressure ; and the skin is not jaundiced. It is, therefore, pretty evident, that the disease did not originate in the liver. I next examine the spleen, which, in certain diseased states, may give rise to dropsy, as it sometimes does after intermittent fevers; I find that there is no enlargement or pain on pressure. I must, therefore, go to some other organ in which the disorder may be supposed to have commenced. The heart is often concerned in cases of this sort. But our patient has suffered no pain in the region of the heart; nor has he experienced the slightest dyspnoea or palpitations until very lately. We must, therefore, throw the heart also out of the calculation, and transfer our attention to the only other organ which can be considered as the point from which the affection probably originated. This is the kidney. The urine has been tested by nitric acid and heat, and both tests prove that it contains a large quantity of albumen. This kind of urine is known to arise from an organic disease of the kidney, and it is in this organ, therefore, that we must fix the origin of the affection. The disease of the kidneys giving rise to this modification of the urine, has been particularly studied by Bright, Rayer, and others, who have proved that it consists in a preternatural development of the granules of the cortical substance of the kidneys, in consequence of a peculiar inflammation, attended with a deposit of a yellowish substance, whose nature is not perfectly known. This alteration of structure diminishes the healthy secretion of urine, and causes an accumulation of its elements in the blood, which becomes vitiated by the admixture of urea; the superabundant serum is effused into the cellular tissue, while the albuminous portion of the blood is drained from it by the disordered action of the kidneys. The disease thus commencing in the kidneys, is almost always transmitted secondarily to the heart and liver; and *vice versa*, affections of either of these organs, of such a nature as to produce dropsy, in the end, produce a secondary action on the kidneys. We have lately had several cases illustrative of the manner in which disease is thus reflected from one of these organs to the other. In one of these cases, the patient had received an injury of the chest, from lifting a heavy cask, which resulted in inflammation of the heart, and disease of the valves. The obstruction thus opposed to the circulation, produced an anasarcaous effusion throughout the body. About three months after the heart became affected, the liver was suddenly attacked by inflammation, which was indicated by jaundice, pain and tension in the right hypochondrium; this was relieved by cupping, and other antiphlogistic measures. After some time, the kidneys exhibited signs of disease. In another case, precisely the same order of phenomena was observed. In a third, the disease commenced,

as in the preceding instances, in the heart, and was then communicated to the liver; but the latter organ became implicated only to a slight degree, and by a gradual process; the existence of hepatic disorder was chiefly manifested by a change in the colour of the skin. The kidneys were again last in the chain of diseased action.

In the present case, the kidneys are as yet the only organs obviously affected; the liver offers very slight signs of disease, and the heart still less. But it is very probable that, in the progress of the case, both will become seriously implicated. Even now the action of the heart is spasmodic, and somewhat louder than natural. This change in the action of the heart, is owing to the altered condition of the blood, for you will always find that anemic patients, whose blood is thin and watery, present a quick jerking action of the heart. In the dropsies that supervene after severe attacks of intermittent and remittent fever, the liver is generally first affected, and subsequently the heart and kidneys, at intervals which vary according to circumstances. While I was a resident physician in this hospital, most of the cases of dropsy commenced in this manner, because fevers of this type were then more severe and frequent than they have since been; the consequence was an unusual number of cases of ascites.

I will now show you the evidence of the diseased condition of the kidneys, by exposing the urine to the action of chemical tests. In the earlier stages of the affection, this sign is not a certain one, because the urine may contain too little albumen to be developed by the action of reagents; but in a case so well marked as the present one, there can be no difficulty in the matter. We have unequivocal evidences of the existence of albumen, which, when permanent, as before remarked, is the proof of a specific inflammation of the kidneys, attended with a preternatural development of the cortical granules. In testing with heat, it is necessary that it should be raised to the boiling point of water. A convenient method of applying the test, is to hold a spoon filled with the urine in the flame of a candle. I now exhibit the process to you, and in proportion as the heat rises, you perceive the abundant formation of albuminous floculi. Heat is a better test than nitric acid, because, if the acid be added in excess, it sometimes redissolves the precipitate. You see, however, the very copious precipitate that is produced by the addition of a few drops of nitric acid. In very severe cases, the urine is almost entirely solidified by either of these tests. It is proper that I should caution you against receiving with too implicit confidence, the statements of writers with regard to the frequent occurrence of "Bright's disease" of the kidneys, as the primary affection in dropsies. That it is so, in many cases, there can be no doubt; but it is equally certain that

it often succeeds affections of the heart or liver. We should always endeavour to ascertain the real order of events, and not place that first, which is, in fact, only a secondary occurrence.

The value of the albuminous deposit, as a test of the disease of the kidneys, depends upon its permanence; for, in not a few inflammatory disorders, and in certain eruptive fevers, such as scarlatina, the albumen is found; still it is not permanent, but disappears with convalescence. This subject has been studied by Christison and Gregory in Great Britain, and Rayer and Martin-Solon, in France, who have prosecuted the researches of Dr. Bright.

The treatment of the preceding case, has, thus far, been conducted on antiphlogistic principles. Six cups were yesterday applied to each lumbar region, and the infusion of senna and manna ordered. These measures will be repeated from time to time, as may be necessary. Bleeding is only applicable to a limited number of cases; but cupping is always proper, until the inflammation which attends the early stages, at least, is subdued. In addition to antiphlogistic means, we must also adopt measures to procure the evacuation of the dropsical effusion. Diaphoretics and purgatives are the most proper remedies of an evacuant character. Diuretics are generally contraindicated, unless towards the close of the disease, when the inflammation has been subdued; because, being direct stimulants to the kidney, they cannot but aggravate the disease. Sweating and purging are the only safe means. The utility of diaphoretics has been strongly insisted on by Dr. Osborne, who, perhaps, carries his approbation of them too far. Cupping and purgation will, in most cases, answer better than any other treatment.

This variety of dropsy is more frequent in the British islands than in any other part of the world. Whether this is the consequence of the dampness of the climate, or of the free use of certain drinks among the people, is not ascertained; but the former cause is probably the most efficient one. In France, it is certainly less frequent, and so likewise in our own country. Intemperance and cold appear to be the causes which most frequently develop it.

I have already presented to you some cases of that variety of dropsy which originates in disease of the heart. One of these occurred in a mulatto, who lately died in the hospital. He led a most intemperate and dissolute life, during the intervals of time between his discharge and recommitment to various prisons. He was first seized with palpitations and pain in the præcordia. He went to the Dispensary in Fifth street for advice; he was there bled, and directed to take small doses of calomel, digitalis, and Dover's powder. After a short time he discontinued his visits to the Dispensary, and returned to his profligate course of life. He next submitted himself to the treatment of an herb doctor, in whose hands he grew much

worse. He then entered the hospital, with the symptoms previously observed, in a greatly aggravated degree. An intense rasping, alternating with a bellows sound, was heard in the first sound of the heart; the second sound was hardly distinguishable; the impulse was immensely increased, and was felt over a much larger space than natural; there was likewise dulness on percussion, dyspnœa, swelling of the face, legs, and abdomen. It was inferred from these signs, that the disease of the heart which resulted in the effusion, consisted in hypertrophy, and obstruction of the semilunar valves of the aorta, accompanied by inflammation of the membranes of the heart.

On examination after death, we discovered the lesions which I now proceed to demonstrate. The internal surface of the left side of the heart presents a fine example of endocarditis. The whole lining membrane is white, thickened, and opaque. On the right fold of the mitral valve is an ulcer a quarter of an inch in diameter; the left fold is likewise ulcerated, and the remaining portions of the valve are injected, thickened, and apparently on the point of ulcerating. The semilunar valves of the aorta are red, thickened, contracted, and stiffened, while the orifice of the aorta is enlarged so much, that you may thrust three fingers into it. The pericardium is roughened and opaque, in consequence of the effusion of lymph; and there is a small band of false membrane proceeding from the aorta to the body of the heart. The inflammation of the pericardium did not supervene until after the entrance of the patient, and was rather of a serous, than of an adhesive kind; and an abundant effusion of serum was likewise found in the cavity of the membrane. The cavity of the left ventricle is dilated to twice the natural size, while the thickness of its parietes is preserved; it is also much hardened. It is, therefore, manifestly a case of hypertrophy, with dilatation, or *eccentric hypertrophy*, as it is termed. The columnæ carneæ are much enlarged, and the tissue of the heart is nearly as firm as that of the uterus in its natural condition.

The right side of the heart presents fewer marks of disease. This is in accordance with the general rule, that inflammation, in a large majority of cases, attacks the left side, and the right side is affected secondarily, if at all. The lining membrane of the right ventricle varies but slightly from the normal condition; the tricuspid valve appears to be slightly inflamed. Hypertrophy affects the right side, almost equally with the left. It is now sufficiently evident that inflammation of the heart, in this case, was the cause of the dropsy, because the signs of it were very clearly marked before the latter supervened.

The liver also offers evidences of disease. It contains rather more blood than it usually does, and the acini are enlarged and hardened. This condition of the acini constitutes the mor-

bid alteration termed *cyrrhosis*, which is certainly very analogous to Bright's disease of the kidneys. The cause of this change in the liver is not well understood. The kidneys are somewhat altered, and exhibit evident marks of the disease of Bright. The granules of the cortical substance are enlarged, and yellow, opaque specks, are visible between the tubuli uriferi.

From this examination, it appears that the dropsical effusion was the result of an affection of the heart; and that after the blood had become altered in its composition in consequence of the effusion, the liver and kidneys were implicated in the morbid process. It is thus that an affection of a single organ will produce a general disease of the system, and this in its turn will give rise to local disorders. The same double play of diseased action is observed in those cases where bronchitis or pneumonia produces disease of the heart; and familiar instances of the same thing might be cited from numerous other affections.

DOMESTIC SUMMARY.

The London Dissector.—The American edition of this work, edited by E. J. Chaisty, M. D., demonstrator of anatomy in the University of Maryland, has recently reached us. It has been noticed in most of the medical journals, some time since, and it will be sufficient for us to express our accordance in the opinion generally entertained, that it appears to be a useful guide to the study of anatomy.

Professor Brainard's Introductory Lecture.—A well written, sensible discourse, lately delivered at the Medical Institution of Yale College.

Louisville Medical Institute.—This institution appears to have attained a success, quite unexampled in rapidity. The number of matriculants for the current session, the third of its existence, is two hundred and four.

Death from the inhalation of the vapour of the bi-sulphuret of mercury.—A patient in the surgical ward of the Louisville Hospital, labouring under a venereal ulcer of the palate, was directed to use mercurial fumigation, which he did, in the manner and to the degree usually practised in the ward, but it proved fatal to him in less than half an hour. A detailed report of the case with the *post mortem* appearances will be given in our next number.—*Western Journal of Medicine and Surgery.*

Milk sickness, alias sick stomach.—This endemic of the West, to which science has not yet given a name, and even sometimes professes to doubt the existence, continues to attract the attention of the people and country practitioners, in various parts of Ohio, Indiana, Illinois, Kentucky and Tennessee. Sometime since, we received two communications concerning it. One from Miami county, the other, accompanied with specimens of a plant supposed to be the remote cause, from Fayette county, in the State of Ohio. The former by an intelligent, but non-professional gentleman, presents as the poisonous plant, supposed to produce the disease, the *Rhus radicans*; but as this vine grows universally in the West, while the malady in question is limited to particular spots, we cannot concur in the hypothesis. The plant transmitted to us by the latter, is the *Eupatorium ageratoides*, found *every where* in our fertile woods; and therefore not likely to be the cause of a disease perseveringly limited to certain localities. Moreover, judging it by the taste, it is quite inert; and indeed the whole genus to which it belongs, except the *perfoliatum*, appear to be destitute of active qualities; and that species is by no means of a noxious character.

In connexion with this subject we record the following fact. In the month of July last, about twenty of the boarders, in the hotel of Mr. Madeira, Chillicothe, Ohio, were attacked, in one, two, or three hours after breakfast, with nausea and vomiting. In some, the latter was violent, accompanied with spasms of the stomach, and a degree of prostration from which they did not entirely recover for three or four days. Of course, this affection was ascribed to something eaten at the table, but the only article taken by the whole, was *butter*; and that butter, it was ascertained, had been brought from an adjoining county in which the milk sickness prevails. Many facts of this kind have been reported by the people in different parts of the West, but, generally, discredited by the profession. We beg leave to commend the whole subject to our country friends, and shall be happy to give publicity to their observations and experiments.—*Ib.*

Scarlatina simplex.—For several years past, different varieties of scarlatina have prevailed somewhere in the West. In one year, one town has been affected, in another, a different place. In degree, it has varied from high and fatal malignancy, to extreme mildness. During the present winter, in Louisville, it has assumed the latter character, presenting itself as a slight febrile affection with moderate tumefaction of the glands and ganglia of the throat and neck, followed in several cases by œdema of the lower extremities. In some families, most of the children have been either simultaneously or successively affected. We shall be happy to receive for publication an account of

this epidemic, as it has laterally shown itself in the West.—*Ib.*

[This account of the scarlatina epidemics, illustrates some of the remarks which we have hazarded in our notice of the Journal from which we quote.—Ed.]

FOREIGN SUMMARY.

Preservation of subjects for dissection.—After a variety of experiments, MM. Babington and Rees have succeeded in preserving subjects for anatomical purposes, by injecting the vascular system with pyroxylic spirit. The following account shows how well this substance is calculated for the purposes to which it was applied:—

On the 15th of May last, a convict at Woolwich, twenty-three years of age, died of inflammation of the bowels; and, on the 18th, his body was sent to Guy's Hospital for dissection. It was neither œdematous, nor in a state of decomposition, and was in a fair condition for anatomical purposes. On the 21st, a gallon of pyroxylic spirit was injected into the aorta, and the body was placed in a water-tight shell, or trough, made of slate, and loosely covered with a wooden lid. This trough was deposited in a cellar, the stone floor of which was about two feet below the surface of the ground. On the 29th, the lid was removed, for the first time, and the body was found to be perfectly fresh. From the 29th of May, to the 12th of June, the subject was examined, by removing the lid of the trough every two or three days, and no change was perceptible until the latter date. At that time the only sign of alteration was the appearance of two or three brown streaks—evidently veins—on the inside of the thighs, and a separation of the cuticle of the hands from the true skin, which began to assume a greenish hue. Every other part of the body was perfectly preserved, and of a natural colour. There was no putrid odour on opening the lid of the trough, but the characteristic smell of the pyroxylic spirit was in some measure passing off. An incision into the middle of the right thigh, showed that the fat, muscles, blood-vessels and nerves were in a complete state of preservation. It should be observed, that ever since the injection of the subject, the weather had been that of established summer; and that a second body, received from Woolwich, was so decomposed in three days after its arrival, as to be totally unfit for dissection. On the last examination, as well as on two or three previous occasions, fluid was observed to occupy the bottom of the trough, and this it was thought advisable to remove; it was likewise determined to throw another quart of pyroxylic spirit into the aorta.

On the 24th of June, the body was removed to the dissecting-room, and placed on the table, for the purpose of being thoroughly dissected. With the exception of a greenish appearance on the outer part of the left thigh, and

the brown streaks already mentioned, it appeared, when brought into the light, perfectly preserved. The skin on the back of the hands, instead of putrifying, had dried, and become transparent; while the greenness of the left thigh proved, on incision, to be quite superficial. The dissection was undertaken by eight gentlemen, and completed by the 13th of July; and it is testified by them all, that every anatomical purpose was as fully answered as if the subject had been quite recent. The various parts, on being laid open, were of natural colour, and of firm texture. The tendons and ligaments were silvery and white, and the nerves had lost none of their tenacity. The pectoral muscles alone formed an exception to the natural colour which was elsewhere maintained; this appeared to be attributable to the macerating effects of a wetted cloth that had been laid upon the breast, to prevent evaporation through the aperture, by which the injection had been accomplished. The parts which were exposed by dissection gradually dried, changing, in the course of a day or two, to a dark colour, and, instead of putrifying, becoming hard. The brain, although it had retained its form, was soft, semi-putrid and unfit for demonstration: it must be borne in mind, however, that had the head been opened six days after death—at which period the subject was injected—this probably would have been the case.

The advantages of employing pyroxylic spirit are, 1st, its extreme fluidity, in consequence of which it may be thrown into the minutest vessels. 2dly, its freedom from colour. 3dly, its cheapness; for a gallon is sufficient to inject a full sized subject; and even with the present limited manufacture of it, it is only half the price of alcohol; while it possesses infinitely greater antiseptic powers, and is, in common with that fluid, miscible with water, in all proportions. 4thly, its innocuous nature, and its freedom from any corrosive action upon steel instruments.—*Lancet, abridged from Guy's Hospital Reports, No. 9.*

Comparative digestibility of food.—We must not determine upon the digestibility, or at least the nourishing properties of food, from the feeling of facility with which it is removed from the stomach. All those kinds of food which, by strongly exciting the motion of the stomach, go quickly into the intestines, may be easily borne by the stomach, but are very imperfectly dissolved, and at last are followed by all the consequences of disturbed digestion. They afford the body, therefore, only a very small quantity of digestible matter, and are again excreted mostly unchanged. On the contrary, there are other kinds of food which, on account of their long continuance in the stomach, appear for the moment to be hard to digest, yet are nevertheless perfectly digestible, and never followed by bad consequences upon passing into the rest of the intestines.—*Prof. Schultz on Digestion.*